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XXIII.—*On the New Bat (Amblyotus atratus) discovered by Prof. Kolenati.* By L. H. JEITTELES\*.

SOME astonishment was excited in the scientific world when the late Professor Kolenati, of Brünn, in 1858 published (in the Sitzungsber. der Wiener Akad., mathem.-naturw. Klasse, xxix. pp. 250–256) the description of a Bat discovered by him on the Altvater, and which he not only regarded as a new species in the South-European fauna, but actually set up as the type of a new genus. Could it really be possible, in the middle of the nineteenth century, to discover new *species* and even new *genera* of Mammalia in the heart of Europe? This seemed, even to many scientific men, so incredible that they felt themselves obliged to oppose more or less doubt to the very existence of this newly described animal, which, moreover, has remained undetected even to the present day in any other region of Germany, and to assume that there had been some error in the determination. I must admit that I also was not disinclined to partake of these doubts; and I was the more induced to do so, as one of the greatest living European authorities on the Mammalia expressed an opinion, in a letter to me, that Kolenati's new Bat might probably be only *Vesperugo Nilssonii*, Blas. During my residence in Olmütz I took pains to obtain Bats from the Altvater, in order to be able to form an opinion for myself, from my own investigations, as to this doubtful new mammal. By the kindness of M. Theisler, at that time tutor in the house of M. Primavesi, a merchant in Olmütz, and who passed a great part of the summer of 1864 in Gräfenberg, I obtained at last a Bat (found on the 11th of August, 1864, in the daytime, under a stone near the Swiss dairy on the Altvater) from the careful examination of which I con-

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vinced myself that Kolenati was quite right in introducing the Bat of the high valley as a new species into our fauna.

The specimen brought to me by M. Theisler was a male, and had a length of 94 millims., of which the body occupied 54 and the tail 40 millims. The expanse of wing I could not determine, because the specimen had already lain for a considerable time in spirits, and, owing to the stiffening of the muscles, the wings could not be sufficiently pulled out. The other measurements were as follows:—

	mill.
Length of head . . . . .	17·5
Greatest length of ear at outer margin . . . . .	15
Length of tragus at outer margin . . . . .	6
"    "    inner margin . . . . .	4
Humerus . . . . .	25
Lower arm . . . . .	40
Third finger . . . . .	34 + 13·5 + 10 + 6
Fourth finger . . . . .	33·5 + 12·5 + 7·5 + 2
Fifth finger . . . . .	32 + 8 + 5·5 + 1·5
Thigh . . . . .	13·5
Tibia . . . . .	18
Foot . . . . .	9
Free apex of tail . . . . .	4·5

As regards the formation of the ears, the most remarkable point is the *entire absence of transverse folds*. The outer margin of the ear, which is not notched at any part, terminates *in front* of the tragus, on the same level as the cleft of the mouth, and at a distance of 3 millims. from the angle of the latter. The ear is obtusely rounded above, and pretty strongly hairy on the inner surface. The inner margin of the tragus runs at first straight, but curves outwards and upwards in its upper third; Kolenati's description, "konvex bogig und nach aufwärts gebogen," is therefore perfectly correct. Nevertheless I must not conceal that in my specimen the tragus of the *left* ear does not agree so accurately with this statement as that of the right one, to which it accurately applies. The upper extremity (the apex) is rounded off in both tragi more than is the case in Kolenati's figure (p. 252). The tragus attains its greatest breadth about in the middle of the outer margin, and possesses an obtuse tooth at the base of the same margin.

When pressed down, the ears not only reach the apex of the snout, but extend with their obtuse ends more than 5 millims. beyond the latter. The region between the eye and the nostril is strongly tumid, sparingly clothed with hair, and of a black colour; the muzzle appears rather obtuse. The whiskers on the muzzle of my specimen are much shorter than they should be according to Kolenati's figure and description.

The cutting-edges of the lower incisor teeth stand in the direction of the jaw. The outer (second) upper incisor is not quite so high as the outer point of the bicuspid inner (first) tooth, and is strikingly weaker than the first tooth in its transverse section. The upper canines are remarkably large, nearly twice as long as the lower ones. In the upper jaw there are four, and in the lower jaw five molar teeth on each side. The first inferior molar is nearly one-half lower than the second.

On the spur-bone there is a very inconsiderable membranous lobe, measuring only  $\frac{1}{2}$  millim. at its broadest part; this does not project angularly, but runs parallel to the spur-bone, or, rather, becomes very gradually narrower and terminates about the middle of the spur-bone. This membranous lobe is so slightly developed that it may easily be overlooked on a cursory examination, but it nevertheless exists.

The wing-membrane is attached as far as the roots of the toes. The tip of the tail stands freely out of the membrane.

The colour of the long fur is dark brown above, yellowish beneath. The hairs are of two colours, both above and below, the base dark blackish brown, the apical third above and the apical half below light yellowish brown. The apices of a portion of the dorsal hairs have a nearly golden lustre. The interfemoral membrane is furnished with tolerably close, uniformly brown hairs, without golden lustre. The ears, muzzle, and wing-membrane are dark brownish black.

The animal here described by me consequently agrees very well (leaving out of consideration the shorter whiskers) with the description of Kolenati's *Amblyotus atratus*, with the exception of two characters. My specimen has a very narrow, but still unmistakable membranous lobe on the spur-bone; and the second joint of the fourth finger is much longer in proportion to the third, in my individual, than accords with Kolenati's description, as my measurements of the joints in question are 7·5 and 12·5 millims., and Kolenati's 9 and 19 millims.

The question now was whether this Bat could not be referred to some previously known species. From the number of molar teeth it could only be referred to *Vesperugo Nilssonii*, Keys. & Blas., or to *V. discolor*, Natt. But from *V. Nilssonii* the animal from the Altvater is distinguished by the lower incisor teeth standing quite distinctly in the direction of the jaw, and by the second upper incisor being lower and far weaker in proportion to the first; from *V. discolor* by the smaller height of the first upper incisor, which in the Altvater Bat is scarcely once and a half the height of the second tooth, whilst its outer point is, indeed, somewhat higher than the second incisor, but

at the same time much lower than the inner point of the first tooth,—also by the termination of the outer margin of the ear neither below the line of the cleft of the mouth, nor close to its angle, and, finally, by the golden lustre of the dorsal hairs. And, from both species, *Amblyotus atratus*, Kolen., differs most strikingly in its foldless ears and in the formation of the tragus, which is quite different from that of any other species of *Vesperugo*. From *Vesperugo maurus*, Blas., with which the Altvater Bat agrees in respect of the golden lustre of the dorsal hairs, it differs in the position of the lower incisor teeth, in the want of the second unicuspid molar in the upper jaw, and in the structure of the ear.

Kolenati's new Bat consequently really forms a good species. And the establishment of a new genus also appears to be justified, as this Chiropter differs, in the structure of the ear and the very inconsiderably developed membranous lobe of the spur-bone, from all other species of the genus *Vesperugo*, Keys. & Blas., and likewise from those of the genus *Vespertilio*, Linn.

The generic character of *Amblyotus*, Kolenati, should therefore be as follows:—

“Above four, beneath five molar teeth on each side. Ears without folds, with the outer margin terminating in front of the tragus. Tragus convexly curved at the upper third of its inner margin, with the rounded extremity bent upwards and outwards. The spur-bone on the hind foot bears an extremely narrow, straight, lateral membranous lobe.”

From this it appears that this genus, as already remarked by Kolenati, constitutes a true intermediate form between the genera *Vesperugo* and *Vespertilio*.

The species *Amblyotus atratus*, Kolen., may be thus characterized:—

“Ears much shorter than the head. Wing-membrane attached to the base of the toes. Tip of the tail freely projecting from the interfemoral membrane. Edges of the lower incisor teeth standing in the direction of the jaw. First upper incisor bicuspid, rather higher, and in transverse section much stronger than the second. Muzzle broad and obtuse, sparsely hairy, black. Dorsal hairs with golden lustre.”

I have still to express the opinion that this remarkable animal may be a hybrid, possibly of *Vesperugo Nilssonii* or *discolor*, and a species of *Vespertilio*, perhaps *V. Daubentonii* or *mystacinus*.